

8/22/03 → 11/3/03 →
FD CD ~~10340597~~

1044584
cont & f 10340597
cont of 0981147/

PRELIMINARY AMENDMENT

NIT-270-03

IN THE CLAIMS

Cancel claims 1-14 without prejudice or disclaimer and add new claims 15-22 as set forth below:

Claims 1 through 14 (Canceled)

15. (New) Perpendicular magnetic recording media, comprising:

a substrate;

a first recording layer formed above the substrate, which has perpendicular magnetic anisotropy; and

a second recording layer laminated on the first recording layer, which has perpendicular magnetic anisotropy, wherein:

an exchange stiffness constant between grains of the first recording layer is 0.05×10^{-11} J/m or less; and

an exchange stiffness constant between grains of the second recording layer is 0.15×10^{-11} J/m to 0.8×10^{-11} J/m.

16. (New) Perpendicular magnetic recording media according to claim 15, further comprising:

an underlayer formed between the substrate and the first recording layer.

17. (New) Perpendicular magnetic recording media according to claim 16, wherein the underlayer has high permeability characteristics.

18. (New) Perpendicular magnetic recording media according to claim 16, wherein the underlayer comprises Ni-Fe.

19. (New) Perpendicular magnetic recording media comprising,

a substrate;

a first recording layer formed above the substrate and provided with perpendicular magnetic anisotropy;

a second recording layer laminated on the first recording layer and provided with perpendicular magnetic anisotropy, wherein:

the exchange stiffness constant showing the magnitude of magnetic exchange interaction between grains of the first recording layer is 0.05×10^{-11} J/m or less;

the exchange stiffness constant showing the magnitude of magnetic exchange interaction between grains of the second recording layer is a range of 0.05×10^{-11} J/m to 0.08×10^{-11} J/m;

a sum of a thickness of the first recording layer and a thickness of the second recording layer is 10 to 100 nm; and

a ratio of the thickness of the second recording layer is in a range of 0.5 to 1.0.

20. (New) Perpendicular magnetic recording media according to claim 19, further comprising:

ODP
6641901
+ Mod. ref.

an underlayer formed between the substrate and the first recording layer.

21. (New) Perpendicular magnetic recording media according to claim 20, wherein the underlayer has high permeability characteristics.

22. (New) Perpendicular magnetic recording media according to claim 20, wherein the underlayer comprises Ni-Fe.